

FRACTIONS

- 2008B 6. Points B and C lie on \overline{AD} . The length of \overline{AB} is 4 times the length of \overline{BD} , and the length of \overline{AC} is 9 times the length of \overline{CD} . The length of \overline{BC} is what fraction of the length of \overline{AD} ?
- (A) $\frac{1}{36}$ (B) $\frac{1}{13}$ (C) $\frac{1}{10}$ (D) $\frac{5}{36}$ (E) $\frac{1}{5}$
- 2011B 6. On Halloween Casper ate $\frac{1}{3}$ of his candies and then gave 2 candies to his brother. The next day he ate $\frac{1}{3}$ of his remaining candies and then gave 4 candies to his sister. On the third day he ate his final 8 candies. How many candies did Casper have at the beginning?
- (A) 30 (B) 39 (C) 48 (D) 57 (E) 66
- 2014B 6. Orvin went to the store with just enough money to buy 30 balloons. When he arrived he discovered that the store had a special sale on balloons: buy 1 balloon at the regular price and get a second at $\frac{1}{3}$ off the regular price. What is the greatest number of balloons Orvin could buy?
- (A) 33 (B) 34 (C) 36 (D) 38 (E) 39

- 2002B 7. Let n be a positive integer such that $\frac{1}{2} + \frac{1}{3} + \frac{1}{7} + \frac{1}{n}$ is an integer. Which of the following statements is **not** true:
- (A) 2 divides n (B) 3 divides n (C) 6 divides n (D) 7 divides n
(E) $n > 84$

- 2012A 7. In a bag of marbles, $\frac{3}{5}$ of the marbles are blue and the rest are red. If the number of red marbles is doubled and the number of blue marbles stays the same, what fraction of the marbles will be red?
- (A) $\frac{2}{5}$ (B) $\frac{3}{7}$ (C) $\frac{4}{7}$ (D) $\frac{3}{5}$ (E) $\frac{4}{5}$

- 2014B 9. For real numbers w and z ,

$$\frac{\frac{1}{w} + \frac{1}{z}}{\frac{1}{w} - \frac{1}{z}} = 2014.$$

What is $\frac{w+z}{w-z}$?

- (A) -2014 (B) $\frac{-1}{2014}$ (C) $\frac{1}{2014}$ (D) 1 (E) 2014